PATENT
Docket No. **RIC95042**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	**Mail Stop APPEAL BRIEF - PATENTS**
	)	
Lisheng HUANG	)	Group Art Unit: 2616
	)	
Application No.: 08/575,433	)	Examiner: P. Tran
	)	
Filed: December 20, 1995	)	
	)	
For: HYBRID PACKET-SWITCHED AND CIRCUIT-SWITCHED TELEPHONY SYSTEM	)	

U.S. Patent and Trademark Office
Customer Window, Mail Stop Appeal Brief - Patents
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Alexandria, Virginia 22314

APPEAL BRIEF

This Appeal Brief is submitted in response to the non-final Office Action, dated April 27, 2006, which re-opened prosecution of the present application, and in support of the Notice of Appeal, filed July 27, 2006.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is MCI, LLC., an affiliate of Verizon Communications, Inc.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

Appellant is unaware of any related appeals, interferences or judicial proceedings.

III. STATUS OF CLAIMS

Claims 1, 4-7, 9-11, 14-17, 19, 20, 22, and 26-39 are pending in this application.

Claims 1, 4-7, 9-11, 14-17, 19, 20, 22, and 26-39 were rejected in the Office Action, dated April 27, 2006, and are the subject of the present appeal. These claims are reproduced in the Claim Appendix of this Appeal Brief.

IV. STATUS OF AMENDMENTS

No Amendment was filed subsequent to the non-final Office Action, dated April 27, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In the paragraphs that follow, each of the independent claims involved in this appeal and each dependent claim that is argued separately will be recited, followed in parenthesis by examples of where support can be found in the specification and drawings.

Claim 1 recites a telecommunications system comprising an originating circuit-switched network for providing originating signals in response to voice input (e.g., 2, Fig. 1; pg. 12, line 11), an originating gateway computer for converting said originating signals into digital data packets (e.g., 3, Fig. 1; pg. 13, lines 19-26, and pg. 14, lines 7-11), a terminating gateway computer that accepts out of band signaling and converts said digital data packets into

terminating signals (e.g., 6, Fig. 1; pg. 13, line 26, to pg. 14, line 14), a terminating circuit-switched network for providing voice output in response to said terminating signals (e.g., 7, Fig. 1; pg. 14, lines 5-11), and a packet-switched network for transmitting said digital data packets from said originating gateway computer to said terminating gateway computer (e.g., 5, Fig. 1; pg. 13, lines 20-26), at least one of said originating gateway computer or said terminating gateway computer comprising a component for routing said digital data packets through said packet-switched network from said originating gateway computer to said terminating gateway computer (e.g., 39, Fig. 3b; pg. 8, lines 1-5); wherein said terminating circuit-switched network is capable of providing first return signals to said terminating gateway computer in response to return voice input (e.g., pg. 13, lines 19-26), wherein said terminating gateway computer comprises a component for converting said first return signals into return packets of return digital data (e.g., 36, Fig. 3b; pg. 8, lines 9-15), wherein at least one of said originating gateway computer or said terminating gateway computer comprises a component for routing said return packets through said packet-switched network from said terminating gateway computer to said originating gateway computer (e.g., 39, Fig. 3b; pg. 8, lines 1-5, and pg. 13, lines 20-26), and wherein said originating gateway computer comprises a component for converting said return packets into second return signals (e.g., 36, Fig. 3b; pg. 8, lines 9-15, and pg. 13, line 26, to pg. 14, line 11).

Claim 5 recites that the terminating gateway computer further comprises a component for rearranging said stored digital packets to maintain a proper packet order (e.g., pg. 13, line 26, to pg. 14, line 11).

Claim 7 recites that the routing component provides the routing in response to spoken digits (e.g., pg. 12, lines 1-11).

Claim 11 recites a telecommunications system comprising an originating gateway computer for providing digital packets corresponding to originating signals produced in response to voice input (e.g., 3, Fig. 1; pg. 13, lines 19-26, and pg. 14, lines 7-11), a gateway computer that accepts out of band signaling and converts said digital packets into terminating signals (e.g., 6, Fig. 1; pg. 13, line 26, to pg. 14, line 14), a circuit-switched network for providing voice output in response to said terminating signals (e.g., 7, Fig. 1; pg. 14, lines 5-11), and a packet-switched network for transmitting said digital packets from said originating gateway computer to said gateway computer (e.g., 5, Fig. 1; pg. 13, lines 20-26), at least one of said originating gateway computer or said gateway computer comprising a component for routing said digital packets through said packet-switched network from said originating gateway computer to said gateway computer (e.g., 39, Fig. 3b; pg. 8, lines 1-5); wherein said circuit-switched network is capable of providing first return signals to said gateway computer (e.g., pg. 13, lines 19-26), wherein said gateway computer comprises a component for converting said first return signals into packets of return digital data (e.g., 36, Fig. 3b; pg. 8, lines 9-15), wherein at least one of said originating gateway computer or said gateway computer comprises a component for routing said return packets through said packet-switched network from said gateway computer to said originating gateway computer (e.g., 39, Fig. 3b; pg. 8, lines 1-5, and pg. 13, lines 20-26), and wherein said originating gateway computer comprises a component for converting said return packets into second return signals (e.g., 36, Fig. 3b; pg. 8, lines 9-15, and pg. 13, line 26, to pg. 14, line 11).

Claim 15 recites that the gateway computer further comprises a component for rearranging the stored digital packets to maintain a proper packet order (e.g., pg. 13, line 26, to

pg. 14, line 11).

Claim 17 recites that the routing component provides said routing in response to a typed input from a computer keyboard (e.g., pg. 9, line 8, to pg. 10, line 5).

Claim 22 recites a telecommunications method comprising providing originating digital packets for transmission from an originating gateway computer, said originating digital packets corresponding to originating signals produced in response to originating voice input (e.g., 15, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); routing said originating digital packets from said originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of said originating gateway computer or said gateway computer (e.g., 15, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-14); converting said originating digital packets into terminating signals for transmission from said gateway computer (e.g., 16, Fig. 5; pg. 13, line 26, to pg. 14, line 11); transmitting said terminating signals through a circuit-switched network for providing terminating voice output in response to said terminating signals (e.g., 16, Fig. 5; pg. 13, line 26, to pg. 14, line 11); providing first return signals to said gateway computer in response to return voice input into said circuit-switched network (e.g., 17, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); converting said return signals into return digital packets of return digital data for transmission from said gateway computer (e.g., 17, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); routing said return digital packets through said packet-switched network from said gateway computer to said originating gateway computer using said originating routing component or another routing component in said originating gateway computer or said gateway

computer (e.g., 17, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); and converting said return digital packets into second return signals (e.g., 17, Fig. 5; pg. 13, line 26, to pg. 14, line 11).

Claim 26 recites that at least one of said routing components comprises an address resolution logic and a network routing database implemented with a central processing unit (e.g., 45 and 46, Fig. 3b; pg. 8, lines 1-5).

Claim 28 recites that the originating gateway computer includes a component for providing out of band signalling between said originating gateway computer and said originating circuit-switched network (e.g., pg. 14, lines 12-14).

Claim 29 recites a telecommunications system comprising an originating circuit-switched network for providing originating signals in response to voice input (e.g., 2, Fig. 1; pg. 6, lines 20-23); an originating gateway computer for converting said originating signals into digital data packets (e.g., 3, Fig. 1; pg. 13, lines 19-26, and pg. 14, lines 7-11); a terminating gateway computer that accepts out of band signaling and converts said digital data packets into terminating signals (e.g., 6, Fig. 1; pg. 13, line 26, to pg. 14, line 14); a terminating circuit-switched network for providing voice output in response to said terminating signals (e.g., 7, Fig. 1; pg. 14, lines 5-11); and a packet-switched network for transmitting said digital data packets from said originating gateway computer to said terminating gateway computer (e.g., 5, Fig. 1; pg. 13, lines 20-26), at least one of said originating gateway computer or said terminating gateway computer comprising a component for routing said digital data packets through said packet-switched network from said originating gateway computer to said terminating gateway computer (e.g., 39, Fig. 3b; pg. 8,lines 1-5), wherein said terminating circuit-switched network is capable of providing first return signals to said terminating gateway computer in response to return voice

input (e.g., pg. 13, lines 19-26), wherein said terminating gateway computer comprises a component for converting said first return signals into return packets of return digital data (e.g., 36, Fig. 3b; pg. 8, lines 9-15), wherein at least one of said originating gateway computer or said terminating gateway computer comprises a component for routing said return packets through said packet-switched network from said terminating gateway computer to said originating gateway computer (e.g., 39, Fig. 3b; pg. 8, lines 1-5, and pg. 13, lines 20-26), wherein said originating gateway computer comprises a component for converting said return packets into second return signals (e.g., 36, Fig. 3b; pg. 8, lines 9-15, and pg. 13, line 26, to pg. 14, line 11), and wherein at least one of said originating gateway computer or said terminating gateway computer comprises a time-division multiplexing bus interconnecting at least one digital trunk interface with a digital signal processor and an application-specific integrated circuit (e.g., 19, 16, 22, and 23, Fig. 3a; pg. 7, lines 6-20), and a system bus interconnecting said digital signal processor and said application-specific integrated circuit with a central processing unit and a random access memory (e.g., 29, 21, and 17, Fig. 3a; pg. 7, lines 6-20).

Claim 30 recites that the system bus is interconnected with said originating circuit-switched network via a component for out of band signaling (e.g., 18, Fig. 3a; pg. 7, lines 6-20).

Claim 32 recites that the originating digital packets or said return digital packets or both said originating and return digital packets are routed using an address resolution logic and a network routing database implemented with a central processing unit (e.g., 45 and 46, Fig. 3b; pg. 8, lines 1-5).

Claim 34 recites a telecommunications method that comprises providing originating digital packets for transmission from an originating gateway computer, said originating digital

packets corresponding to originating signals produced in response to originating voice input (e.g., 15, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); routing said originating digital packets from said originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of said originating gateway computer or said gateway computer (e.g., 15, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-14); converting said originating digital packets into terminating signals for transmission from said gateway computer (e.g., 16, Fig. 5; pg. 13, line 26, to pg. 14, line 11); transmitting said terminating signals through a circuit-switched network for providing terminating voice output in response to said terminating signals (e.g., 16, Fig. 5; pg. 13, line 26, to pg. 14, line 11); providing first return signals to said gateway computer in response to return voice input into said circuit-switched network (e.g., 17, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); converting said return signals into return digital packets of return digital data for transmission from said gateway computer (e.g., 17, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); routing said return digital packets through said packet-switched network from said gateway computer to said originating gateway computer using said originating routing component or another routing component in said originating gateway computer or said gateway computer (e.g., 17, Fig. 5; pg. 13, lines 20-26, and pg. 14, lines 7-11); and converting said return digital packets into second return signals (e.g., 17, Fig. 5; pg. 13, line 26, to pg. 14, line 11); estimating a unit charge for a call going through said gateway computer (e.g., pg. 12, lines 11-17); informing a caller providing said originating voice input about the unit charge (e.g., pg. 12, lines 17-20); and recording a payment method specified by the caller before providing said terminating voice output (e.g., pg. 12, lines 20-26).

Claim 36 recites that the causing the terminating gateway computer to transmit to the originating gateway computer via said packet-switched network a state change caused by the callee's answering said call (e.g., pg. 13, lines 17-19).

Claim 37 recites that a caller is associated with at least one dedicated address (e.g., pg. 15, line 20, to pg. 16, line 1), and wherein said method further comprises routing a call in accordance with a routing configuration from a telephone at said dedicated address to said originating gateway computer (e.g., pg. 16, lines 1-4), passing said originating signals, the caller's address and a destination address to the originating gateway computer in accordance with said routing configuration (e.g., pg. 16, lines 1-4), authorizing a call by checking account information of the caller though an internal data base of the originating gateway computer (e.g., pg. 16, lines 4-8), resolving a routing to said gateway computer using the destination address (e.g., pg. 16, lines 4-8), and causing the originating gateway computer to send a control message to the gateway computer along with said dedicated address and said destination address (e.g., pg. 16, lines 8-15).

Claim 38 recites a method for establishing a call connection, the method comprising receiving, at a first gateway device (e.g., 3, Fig. 1), a destination address of a called device (e.g., 8, Fig. 1) from a calling device (e.g., 1, Fig. 1) over a first circuit-switched network (e.g., 2, Fig. 1; pg. 12, lines 1-11); transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device (e.g., 6, Fig. 1) over a packet-switched network (e.g., 5, Fig. 1; pg. 12, line 26, to pg. 13, line 7), at least one of the first gateway device or the second gateway device accepting out of band signaling (e.g., pg. 14, lines 12-14); connecting, via the second gateway device, to the called device through a second circuit-

switched network using the destination address (e.g., pg. 14, lines 7-9); and establishing a call connection between the calling device and the called device through the first circuit-switched network, the packet-switched network, and the second circuit-switched network in response to the connecting (e.g., pg. 14, lines 9-19).

Claim 39 recites prompting, via the first gateway device, the calling device for a payment method (e.g., pg. 12, lines 17-20); and validating the payment method prior to transmitting the connection request to the second gateway device (e.g., pg. 12, lines 25-26).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 4-6, 9-11, 14-17, 19, 20, 22, 26-33, and 35-38 stand rejected under 35 U.S.C. § 102(e) as anticipated by Turock (U.S. Patent No. 6,243,373).

B. Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Turock (U.S. Patent No. 6,243,373) in view of Immendorfer et al. (U.S. Patent No. 4,763,350).

C. Claims 34 and 39 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Turock (U.S. Patent No. 6,243,373) in view of Hellwarth et al. (U.S. Patent No. 4,935,956).

VII. ARGUMENTS

A. The rejection of claims 1, 4-6, 9-11, 14-17, 19, 20, 22, 26-33, and 35-38 under 35 U.S.C. § 102(e) based on Turock (U.S. Patent No. 6,243,373) should be reversed.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention always rests upon the Examiner. In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every

aspect of the claimed invention. Any feature not directly taught must be inherently present. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987).

1. Claims 1, 4, 6, 9, 27, and 31.

Independent claim 1 is directed to a telecommunications system that includes an originating circuit-switched network for providing originating signals in response to voice input; an originating gateway computer for converting the originating signals into digital data packets; a terminating gateway computer that accepts out of band signaling and converts the digital data packets into terminating signals; a terminating circuit-switched network for providing voice output in response to the terminating signals; and a packet-switched network for transmitting the digital data packets from the originating gateway computer to the terminating gateway computer. At least one of the originating gateway computer or the terminating gateway computer comprises a component for routing the digital data packets through the packet-switched network from the originating gateway computer to the terminating gateway computer. The terminating circuit-switched network is capable of providing first return signals to the terminating gateway computer in response to return voice input. The terminating gateway computer comprises a component for converting the first return signals into return packets of return digital data. At least one of the originating gateway computer or the terminating gateway computer comprises a component for routing the return packets through the packet-switched network from the terminating gateway computer to the originating gateway computer. The originating gateway computer comprises a component for converting the return packets into second return signals. Turock does not disclose or suggest this combination of features.

For example, Turock does not disclose or suggest a terminating gateway computer that

accepts out of band signaling and converts the digital data packets from the originating gateway computer into terminating signals. The Examiner relies on block 216 of Fig. 2 and col. 9, lines 8-25, of Turock for allegedly disclosing this feature (Office Action, page 3). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Block 216 in Turock's Fig. 2 corresponds to a Specialized Switch with Voice Digital Signal Processing (DSP) (also referred to as an Internet Telephony Switch (ITS) node). Turock discloses that ITS node 216 receives a call and outdials the call through central office 218 (col. 7, lines 1-12). Turock does not disclose or suggest that ITS node 216 accepts out of band signaling, as required by claim 1.

At col. 9, lines 8-25, Turock discloses:

> In order to establish the call, CIM 510 communicates with a Call Acceptance Module (CAM) 556 associated with the Remote ITS Node at the receiving end. During this call negotiation and set up phase, CIM 510 and CAM 556 exchange parameters such as the destination telephone number to be dialed, and whether or not the packetized voice data stream is to be filtered through the Voice Compander Module (discussed below) and/or the Line Quality Module (discussed below) before being transmitted over Internet 214. In addition, the particular protocol used for the data transmission between ITS Node 206 and ITS Node 216 is established. The data transmission protocol is typically either TCP/IP or UDP/IP, since these are the primary protocols supported by Internet 214. Once the initial call setup parameters have been exchanged between ITS Nodes 206 and 216, ICM 506 waits for an indication from Remote ITS Node 216 that the destination telephone number has been dialed by Remote ITS Node 216.

This section of Turock discloses that ITS nodes 206 and 216 exchange parameters over Internet 214 (see Fig. 5) to establish a call. Turock also discloses that the exchange establishes a full duplex voice path for the call between ITS nodes 206 and 216 over Internet 214 (col. 9, line 66, to col. 10, line 2). Appellant submits that this exchange of parameters over the Internet and subsequent conducting of the telephone call over the Internet would not constitute out of band

signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest that the exchange of parameters over Internet 214 occurs on a different communications channel or frequency than used for transporting the telephone call. Thus, neither this section nor any other section of Turock discloses or suggests a terminating gateway computer that accepts out of band signaling and converts the digital data packets from the originating gateway computer into terminating signals, as required by claim 1.

Further with respect to the above feature of claim 1, the Examiner alleges:

> Turock teaches the call control information (col. 9, lines 9-25) is established separate from telephone call between the calling and called parties (col. 9, line 8). Turock teaches the ITS nodes exchange the call control information (as out-of-band signal; CIM 510 communicates with CAM 556 in Fig. 5) to negotiation and set up parameters and then establish the connection. Therefore, Turock's system discloses the ITS (216) receiving out-of-band signal from ITS (206) as the claim invention.

(Office Action, pp. 12-13). Appellant submits that the Examiner has misinterpreted the definition of "out of band signaling."

As set forth above (and as acknowledged by the Examiner on page 12 of the Office Action), "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. The Examiner appears to allege that this is equivalent to the act of establishing a telephone call that is separate from the act of conducting the telephone call. Appellant submits that this logic is flawed.

Clearly, one would appreciate that establishing a telephone call over a first communications channel and then conducting the telephone call over the same first channel would not constitute out of band signaling. Yet, if the act of establishing the telephone call and the act of conducting the telephone call occur separately (e.g., at different times), then this would satisfy the Examiner's misinterpretation of the phrase "out of band signaling." As indicated, above, out of band signaling requires that the signaling occur on a separate communications channel or frequency than used for the telephone call. Turok does not disclose or suggest that ITS node 216 (or any other device) accepts out of band signaling and converts digital data packets from an originating gateway computer into terminating signals, as required by claim 1.

For at least the foregoing reasons, Appellant submits that the rejection of claim 1 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 1 be reversed.

Claims 4, 6, 9, 27, and 31 depend from claim 1. Therefore, Appellant respectfully requests that the rejection of claims 4, 6, 9, 27, and 31 be reversed for at least the reasons given above with respect to claim 1.

2. Claims 5 and 10.

Claim 5 depends indirectly from claim 1. Therefore, claim 5 is not anticipated by Turock for at least the reasons given above with respect to claim 1. Moreover, claim 5 recites an additional feature not disclosed or suggested by Turock.

Claim 5 recites that the terminating gateway computer further comprises a component for rearranging the stored digital packets to maintain a proper packet order. The Examiner relies on step 914 in Fig. 10 of Turock for allegedly disclosing this feature (Office Action, pg. 4).

Appellant respectfully disagrees with the Examiner's interpretation of Turok.

Step 914 in Fig. 10 of Turock discloses that the header information, including sequence number, is validated to ensure that messages have arrived in proper order. This section of Turock does not disclose or suggest a component for rearranging the stored digital packets to maintain a proper packet order. In fact, Turock does not disclose what happens when messages arrive out of order. The Examiner does not point to any section of Turock that discloses this feature.

For at least the foregoing reasons, Appellant submits that the rejection of claim 5 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 5 be reversed.

Claim 10 recites a feature similar to (yet possibly of different scope than) the feature described above with respect to claim 5. Therefore, Appellant respectfully requests that the rejection of claim 10 be reversed for at least reasons similar to reasons given above with respect to claim 5.

3. Claims 11, 14, 16, and 19.

Independent claim 11 is directed to a telecommunications system that includes an originating gateway computer for providing digital packets corresponding to originating signals produced in response to voice input; a gateway computer that accepts out of band signaling and converts the digital packets into terminating signals; a circuit-switched network for providing voice output in response to the terminating signals; and a packet-switched network for transmitting the digital packets from the originating gateway computer to the gateway computer. At least one of the originating gateway computer or the gateway computer comprises a

component for routing the digital packets through the packet-switched network from the originating gateway computer to the gateway computer. The circuit-switched network is capable of providing first return signals to the gateway computer. The gateway computer comprises a component for converting the first return signals into packets of return digital data. At least one of the originating gateway computer or the gateway computer comprises a component for routing the return packets through the packet-switched network from the gateway computer to the originating gateway computer. The originating gateway computer comprises a component for converting the return packets into second return signals. Turock does not disclose or suggest this combination of features.

For example, Turock does not disclose or suggest a gateway computer that accepts out of band signaling and converts the digital packets into terminating signals. The Examiner relies on block 216 of Fig. 2 and col. 9, lines 8-25, of Turock for allegedly disclosing this feature (Office Action, page 3). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Block 216 in Turock's Fig. 2 corresponds to a Specialized Switch with Voice Digital Signal Processing (DSP) (also referred to as an Internet Telephony Switch (ITS) node). Turock discloses that ITS node 216 receives a call and outdials the call through central office 218 (col. 7, lines 1-12). Turock does not disclose or suggest that ITS node 216 accepts out of band signaling, as required by claim 11.

Col. 9, lines 8-25, of Turock is reproduced above. This section of Turock discloses that ITS nodes 206 and 216 exchange parameters over Internet 214 (see Fig. 5) to establish a call. Turock also discloses that the exchange establishes a full duplex voice path for a call between ITS nodes 206 and 216 over Internet 214 (col. 9, line 66, to col. 10, line 2). Appellant submits

that this exchange of parameters over the Internet and subsequent conducting of the telephone call over the Internet would not constitute out of band signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest that the exchange of parameters over Internet 214 occurs on a different communications channel or frequency than used for transporting the telephone call. Thus, neither this section nor any other section of Turock discloses or suggests a gateway computer that accepts out of band signaling and converts the digital packets into terminating signals, as required by claim 11.

Further with respect to the above feature of claim 11, the Examiner alleges:

> Turock teaches the call control information (col. 9, lines 9-25) is established separate from telephone call between the calling and called parties (col. 9, line 8). Turock teaches the ITS nodes exchange the call control information (as out-of-band signal; CIM 510 communicates with CAM 556 in Fig. 5) to negotiation and set up parameters and then establish the connection. Therefore, Turock's system discloses the ITS (216) receiving out-of-band signal from ITS (206) as the claim invention.

(Office Action, pp. 12-13). Appellant submits that the Examiner has misinterpreted the definition of "out of band signaling."

As set forth above (and as acknowledged by the Examiner on page 12 of the Office Action), "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. The Examiner appears to allege that this is equivalent to the act of establishing a telephone call that is separate from the act of conducting the telephone call. Appellant submits that this logic is flawed.

Clearly, one would appreciate that establishing a telephone call over a first communications channel and then conducting the telephone call over the same first channel would not constitute out of band signaling. Yet, if the act of establishing a telephone call and the act of conducting the telephone call occur separately (e.g., at different times), then this would satisfy the Examiner's misinterpretation of the phrase "out of band signaling." As indicated, above, out of band signaling requires that the signaling occur on a separate communications channel or frequency than used for the telephone call. Turok does not disclose or suggest that ITS node 216 (or any other device) accepts out of band signaling and converts digital data packets into terminating signals, as required by claim 11.

For at least the foregoing reasons, Appellant submits that the rejection of claim 11 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 11 be reversed.

Claims 14, 16, and 19 depend from claim 11. Therefore, Appellant respectfully requests that the rejection of claims 14, 16, and 19 be reversed for at least the reasons given above with respect to claim 11.

4. Claims 15 and 20.

Claim 15 depends indirectly from claim 11. Therefore, claim 15 is not anticipated by Turock for at least the reasons given above with respect to claim 11. Moreover, claim 15 recites an additional feature not disclosed or suggested by Turock.

Claim 15 recites that the gateway computer further comprises a component for rearranging the stored digital packets to maintain a proper packet order. The Examiner relies on step 914 in Fig. 10 of Turock for allegedly disclosing this feature (Office Action, pg. 4).

Appellant respectfully disagrees with the Examiner's interpretation of Turok.

Step 914 in Fig. 10 of Turock discloses that the header information, including sequence number, is validated to ensure that messages have arrived in proper order. This section of Turock does not disclose or suggest a component for rearranging the stored digital packets to maintain a proper packet order, as required by claim 15. In fact, Turock does not disclose what happens when messages arrive out of order. The Examiner does not point to any section of Turock that discloses this feature.

For at least the foregoing reasons, Appellant submits that the rejection of claim 15 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 15 be reversed.

Claim 20 recites a feature similar to (yet possibly of different scope than) the feature described above with respect to claim 15. Therefore, Appellant respectfully requests that the rejection of claim 20 be reversed for at least reasons similar to reasons given above with respect to claim 15.

5. Claim 17.

Claim 17 depends from claim 11. Therefore, claim 17 is not anticipated by Turock for at least the reasons given above with respect to claim 11. Moreover, claim 17 recites an additional feature not disclosed or suggested by Turock.

Claim 17 recites that the routing component provides the routing in response to a typed input from a computer keyboard. The Examiner relies on element 252 in Fig. 4 of Turock as allegedly disclosing this feature (Office Action, pg. 4). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Element 252 in Fig. 4 of Turock corresponds to a multimedia personal computer. Turock does not disclose or suggest that multimedia personal computer 252 corresponds to an originating gateway computer for providing digital packets corresponding to originating signals produced in response to voice input or a gateway computer that accepts out of band signaling and converts the digital packets into terminating signals, as required by claim 17. Thus, Turock's multimedia personal computer cannot reasonably be construed as an originating gateway computer or a gateway computer that includes a routing component that provides the routing in response to a typed input from a computer keyboard, as required by claim 17.

For at least the foregoing reasons, Appellant submits that the rejection of claim 17 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 17 be reversed.

6. Claims 22, 33, and 35.

Independent claim 22 is directed to a telecommunications method that includes providing originating digital packets for transmission from an originating gateway computer, the originating digital packets corresponding to originating signals produced in response to originating voice input; routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or said gateway computer; converting the originating digital packets into terminating signals for transmission from the gateway computer; transmitting the terminating signals through a circuit-switched network for providing terminating voice output in response to the terminating signals; providing first return signals to the gateway computer in response to return voice input into the

circuit-switched network; converting the return signals into return digital packets of return digital data for transmission from the gateway computer; routing the return digital packets through the packet-switched network from the gateway computer to the originating gateway computer using the originating routing component or another routing component in the originating gateway computer or the gateway computer; and converting the return digital packets into second return signals. Turock does not disclose or suggest this combination of features.

For example, Turock does not disclose or suggest routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or said gateway computer. The Examiner relies on block 216 of Fig. 2 and col. 9, lines 8-25, of Turock for allegedly disclosing this feature (Office Action, page 5). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Block 216 in Turock's Fig. 2 corresponds to a Specialized Switch with Voice Digital Signal Processing (DSP) (also referred to as an Internet Telephony Switch (ITS) node). Turock discloses that ITS node 216 receives a call and outdials the call through central office 218 (col. 7, lines 1-12). Turock does not disclose or suggest that ITS node 216 accepts out of band signaling, as required by claim 22. Thus, Turock cannot disclose or suggest routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or said gateway computer, as required by claim 22.

Col. 9, lines 8-25, of Turock is reproduced above. This section of Turock discloses that ITS nodes 206 and 216 exchange parameters over Internet 214 (see Fig. 5) to establish a call.

Turock also discloses that the exchange establishes a full duplex voice path between ITS nodes 206 and 216 over Internet 214 (col. 9, line 66, to col. 10, line 2). Appellant submits that this exchange of parameters over the Internet and subsequent conducting of the telephone call over the Internet would not constitute out of band signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest that the exchange of parameters over Internet 214 occurs on a different communications channel or frequency than used for transporting the telephone call. Neither this section nor any other section of Turock discloses or suggests routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or said gateway computer, as required by claim 22.

Further with respect to the above feature of claim 22, the Examiner alleges:

> Turock teaches the call control information (col. 9, lines 9-25) is established separate from telephone call between the calling and called parties (col. 9, line 8). Turock teaches the ITS nodes exchange the call control information (as out-of-band signal; CIM 510 communicates with CAM 556 in Fig. 5) to negotiation and set up parameters and then establish the connection. Therefore, Turock's system discloses the ITS (216) receiving out-of-band signal from ITS (206) as the claim invention.

(Office Action, pp. 12-13). Appellant submits that the Examiner has misinterpreted the definition of "out of band signaling."

As set forth above (and as acknowledged by the Examiner on page 12 of the Office Action), "out of band signaling" refers to the use of a separate communications channel or

frequency for signaling that is different than the channel(s) used for the telephone call. The Examiner appears to allege that this is equivalent to establishing the telephone call being separate from the telephone call. Appellant submits that this logic is flawed.

Clearly, one would appreciate that establishing a telephone call over a first communications channel and then conducting the telephone call over the same first channel would not constitute out of band signaling. Yet, if the act of establishing a telephone call and the act of conducting the telephone call occur separately (e.g., at different times), then this would satisfy the Examiner's misinterpretation of the phrase "out of band signaling." As indicated, above, out of band signaling requires that the signaling occur on a separate communications channel or frequency than used for the telephone call. Turok does not disclose or suggest that ITS node 216 (or any other device) accepts out of band signaling, as required by claim 22. Thus, Turock cannot disclose or suggest routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or said gateway computer, as required by claim 22.

For at least the foregoing reasons, Appellant submits that the rejection of claim 22 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 22 be reversed.

Claims 33 and 35 depend from claim 22. Therefore, Appellant respectfully requests that the rejection of claims 33 and 35 be reversed for at least the reasons given above with respect to claim 22.

7. Claim 26.

Claim 26 depends from claim 1. Therefore, claim 26 is not anticipated by Turock for at least the reasons given above with respect to claim 1. Moreover, claim 26 recites an additional feature not disclosed or suggested by Turock.

Claim 26 recites that at least one of the routing components comprises an address resolution logic and a network routing database implemented with a central processing unit. The Examiner relies on col. 12, lines 66-67, of Turock for allegedly disclosing the above features of claim 26 (Office Action, pg. 6). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

At col. 12, line 66, to col. 13, line 4, Turock discloses:

> Step 622 involves first identifying the Internet address of the Remote ITS Node, and then transmitting an initial message in order to establish a communications path between the ICM of the local ITS Node and the ICM at the Remote ITS Node.

This section of Turock discloses identifying the Internet address of a remote ITS node. This section of Turock does not disclose or suggest a routing component that comprises an address resolution logic and a network routing database implemented with a central processing unit, as required by claim 26.

For at least the foregoing reasons, Appellant submits that the rejection of claim 26 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 26 be reversed.

8. Claim 28.

Claim 28 depends from claim 1. Therefore, claim 28 is not anticipated by Turock for at least the reasons given above with respect to claim 1. Moreover, claim 28 recites an additional feature not disclosed or suggested by Turock.

Claim 28 recites that the originating gateway computer includes a component for providing out of band signaling between the originating gateway computer and the originating circuit-switched network. The Examiner relies on col. 9, lines 8-25, of Turock for allegedly disclosing this feature (Office Action, pg. 6). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Col, 9, lines 8-25, of Turock is reproduced above. This section of Turock discloses that ITS nodes 206 and 216 exchange parameters over Internet 214 (see Fig. 5) to establish a call. Turock also discloses that the exchange establishes a full duplex voice path for the call between ITS nodes 206 and 216 over Internet 214. Appellant submits that this exchange of parameters over the Internet would not constitute out of band signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest that the exchange of parameters over Internet 214 occurs on a different communications channel or frequency than used for transporting the telephone call. Thus, neither this section nor any other section of Turock discloses or suggests an originating gateway computer that includes a component for providing out of band signaling between the originating gateway computer and the originating circuit-switched network, as required by claim 28. In fact, the above section of Turock does not even disclose an originating circuit-switched network.

For at least the foregoing reasons, Appellant submits that the rejection of claim 28 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 28 be reversed.

9. Claim 29.

Independent claim 29 is directed to a telecommunications system that includes an originating circuit-switched network for providing originating signals in response to voice input; an originating gateway computer for converting the originating signals into digital data packets; a terminating gateway computer that accepts out of band signaling and converts the digital data packets into terminating signals; a terminating circuit-switched network for providing voice output in response to the terminating signals; and a packet-switched network for transmitting the digital data packets from the originating gateway computer to the terminating gateway computer. At least one of the originating gateway computer or the terminating gateway computer comprises a component for routing the digital data packets through the packet-switched network from the originating gateway computer to the terminating gateway computer. The terminating circuit-switched network is capable of providing first return signals to the terminating gateway computer in response to return voice input. The terminating gateway computer comprises a component for converting the first return signals into return packets of return digital data. At least one of the originating gateway computer or the terminating gateway computer comprises a component for routing the return packets through the packet-switched network from the terminating gateway computer to the originating gateway computer. The originating gateway computer comprises a component for converting the return packets into second return signals. At least one of the originating gateway computer or the terminating gateway computer comprises a time-division multiplexing bus interconnecting at least one digital trunk interface with a digital signal processor and an application-specific integrated circuit, and a system bus interconnecting the digital signal processor and the application-specific integrated circuit with a central processing

unit and a random access memory. Turock does not disclose or suggest this combination of features.

For example, Turock does not disclose or suggest a terminating gateway computer that accepts out of band signaling and converts the digital data packets into terminating signals. The Examiner relies on block 216 of Fig. 2 and col. 9, lines 8-25, of Turock for allegedly disclosing this feature (Office Action, page 6). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Block 216 in Turock's Fig. 2 corresponds to a Specialized Switch with Voice Digital Signal Processing (DSP) (also referred to as an Internet Telephony Switch (ITS) node). Turock discloses that ITS node 216 receives a call and outdials the call through central office 218 (col. 7, lines 1-12). Turock does not disclose or suggest that ITS node 216 accepts out of band signaling, as required by claim 29.

Col. 9, lines 8-25, of Turock is reproduced above. This section of Turock discloses that ITS nodes 206 and 216 exchange parameters over Internet 214 (see Fig. 5) to establish a call. Turock also discloses that the exchange establishes a full duplex voice path between ITS nodes 206 and 216 over Internet 214 (col. 9, line 66, to col. 10, line 2). Appellant submits that this exchange of parameters over the Internet and subsequent conducting of the telephone call over the Internet would not constitute out of band signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest that the exchange of parameters over Internet 214 occurs on a different communications channel or

frequency than used for transporting the telephone call. Thus, neither this section nor any other section of Turock discloses or suggests a terminating gateway computer that accepts out of band signaling and converts the digital data packets into terminating signals, as required by claim 29.

Further with respect to the above feature of claim 29, the Examiner alleges:

> Turock teaches the call control information (col. 9, lines 9-25) is established separate from telephone call between the calling and called parties (col. 9, line 8). Turock teaches the ITS nodes exchange the call control information (as out-of-band signal; CIM 510 communicates with CAM 556 in Fig. 5) to negotiation and set up parameters and then establish the connection. Therefore, Turock's system discloses the ITS (216) receiving out-of-band signal from ITS (206) as the claim invention.

(Office Action, pp. 12-13). Appellant submits that the Examiner has misinterpreted the definition of "out of band signaling."

As set forth above (and as acknowledged by the Examiner on page 12 of the Office Action), "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. The Examiner appears to allege that this is equivalent to the act of establishing a telephone call that is separate from the act of conducting the telephone call. Appellant submits that this logic is flawed.

Clearly, one would appreciate that establishing a telephone call over a first communications channel and then conducting the telephone call over the same first channel would not constitute out of band signaling. Yet, if the act of establishing the telephone call and the act of conducting the telephone call occur separately (e.g., at different times), then this would satisfy the Examiner's misinterpretation of the phrase "out of band signaling." As indicated, above, out of band signaling requires that the signaling occur on a separate communications

channel or frequency than used for the telephone call. Turok does not disclose or suggest that ITS node 216 (or any other device) accepts out of band signaling and converts digital data packets into terminating signals, as required by claim 29.

For at least the foregoing reasons, Appellant submits that the rejection of claim 29 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 29 be reversed.

10. Claim 30.

Claim 30 depends from claim 29. Therefore, claim 30 is not anticipated by Turock for at least the reasons given above with respect to claim 29. Moreover, claim 30 recites an additional feature not disclosed or suggested by Turock.

Claim 30 recites that the system bus is interconnected with the originating circuit-switched network via a component for out of band signaling. The Examiner relies on col. 6, lines 44-50, of Turock for allegedly disclosing this feature (Office Action, pg. 8). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

At col. 6, lines 44-50, Turock discloses:

> Specialized computer ITS node 206 prompts the user at the calling station 202 to provide the telephone number of the desired or called aty 204. Based on the telephone number of the called party 204, specialized computer ITS node 206 provides a communication link to the called party 204. This is accomplished by the specialized computer ITS node 206 initiating a series of signalling messages over the Global Internet 214 using the TCP/IP protocol.

This section of Turock discloses ITS node 206 provides a communications link to a called party 204 over Internet 214 in response receiving the telephone number of the called party. This section of Turock does not disclose or suggest that a system bus is interconnected with the originating circuit-switched network via a component for out of band signaling, as required by

claim 30.

For at least the foregoing reasons, Appellant submits that the rejection of claim 30 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 30 be reversed.

11. Claim 32.

Claim 32 depends from claim 22. Therefore, claim 32 is not anticipated by Turock for at least the reasons given above with respect to claim 22. Moreover, claim 32 recites an additional feature not disclosed or suggested by Turock.

Claim 32 recites that the originating digital packets or the return digital packets or both the originating and return digital packets are routed using an address resolution logic and a network routing database implemented with a central processing unit. The Examiner relies on col. 12, lines 66-67, of Turock for allegedly disclosing the above features of claim 32 (Office Action, pg. 6). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Col. 12, line 66, to col. 13, line 4, of Turock is reproduced above. This section of Turock discloses identifying the Internet address of a remote ITS node. This section of Turock does not disclose or suggest that the originating digital packets or the return digital packets or both the originating and return digital packets are routed using an address resolution logic and a network routing database implemented with a central processing unit, as required by claim 32.

For at least the foregoing reasons, Appellant submits that the rejection of claim 32 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 32 be reversed.

12. Claim 36.

Claim 36 depends indirectly from claim 22. Therefore, claim 36 is not anticipated by Turock for at least the reasons given above with respect to claim 22. Moreover, claim 36 recites an additional feature not disclosed or suggested by Turock.

Claim 36 recites causing the terminating gateway computer to transmit to the originating gateway computer, via the packet-switched network, a state change caused by the callee's answering the call. The Examiner relies on col. 7, lines 1-17, of Turock for allegedly disclosing this feature (Office Action, pg. 9). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

At col. 7, lines 1-17, Turock discloses:

> node 216 at a remote access port. Terminating specialized computer ITS node 216 is identical to specialized computer 206, also referred to as the originating specialized computer ITS node, except that the originating specialized computer ITS node 206 is used to transmit a call, while the terminating specialized computer ITS node 216 is used to receive a call. Both originating and terminating specialized computers ITS node 206 and 216, respectively, are equipped with transmission circuits and receiving circuits and are capable of handling calls in either direction.
>
> Terminating specialized computer ITS node 216 outdials a call through central office 218 to which it is connected. Central office 218 in turn, routes the call through PSTN 220 to central office 222 which services the called party 204. The telephone at the called party 204 is rung by central office 222 and a communications link between calling party 202 and called party 204 is established.

This section of Turock discloses ITS nodes 206 and 216 and central offices 218 and 222 routing a call. This section of Turock does not disclose or suggest causing a terminating gateway computer to transmit to an originating gateway computer, via a packet-switched network, a state change caused by a callee's answering a call, as required by claim 36.

For at least the foregoing reasons, Appellant submits that the rejection of claim 36 under

35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 36 be reversed.

13. Claim 37.

Claim 37 depends from claim 22. Therefore, claim 37 is not anticipated by Turock for at least the reasons given above with respect to claim 22. Moreover, claim 37 recites an additional feature not disclosed or suggested by Turock.

Claim 37 recites that a caller is associated with at least one dedicated address, and the method further comprises routing a call in accordance with a routing configuration from a telephone at said dedicated address to said originating gateway computer, passing said originating signals, the caller's address and a destination address to the originating gateway computer in accordance with said routing configuration, authorizing a call by checking account information of the caller though an internal data base of the originating gateway computer, resolving a routing to said gateway computer using the destination address, and causing the originating gateway computer to send a control message to the gateway computer along with said dedicated address and said destination address. Turock does not disclose or suggest this combination of features.

For example, Turock does not disclose or suggest authorizing a call by checking account information of the caller though an internal data base of the originating gateway computer. The Examiner relies on col. 9, lines 66-67, of Turock for allegedly disclosing this feature (Office Action, pg. 8). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

At col. 9, line 66, to col. 10, line 2, Turock discloses:

> A full duplex voice path is established between ITS Node 206 and Remote ITS ode 216 over Internet 214 using Telephony Internet Router Module (IRM) 518 located at ITS Node 206.

This section of Turock discloses that a full duplex voice path is established between ITS node 206 and remote ITS node 216. This section of Turock does not disclose or suggest authorizing a call by checking account information of the caller though an internal data base of the originating gateway computer, as required by claim 37.

For at least the foregoing reasons, Appellant submits that the rejection of claim 37 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the rejection of claim 37 be reversed.

14. Claim 38.

Independent claim 38 is directed to a method for establishing a call connection. The method includes receiving, at a first gateway device, a destination address of a called device from a calling device over a first circuit-switched network; transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device over a packet-switched network, at least one of the first gateway device or the second gateway device accepting out of band signaling; connecting, via the second gateway device, to the called device through a second circuit-switched network using the destination address; and establishing a call connection between the calling device and the called device through the first circuit-switched network, the packet-switched network, and the second circuit-switched network in response to the connecting. Turock does not disclose or suggest this combination of features.

For example, Turock does not disclose or suggest transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway

device over a packet-switched network, where at least one of the first gateway device or the second gateway device accepts out of band signaling. The Examiner relies on col. 6, lines 48-51, and col. 6, line 66, to col. 7, line 10, of Turock for allegedly disclosing this feature (Office Action, pg. 9). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

At col. 6, lines 48-51, Turock discloses:

> This is accomplished by the specialized computer ITS node 206 initiating a series of signalling messages over the Global Internet 214 using the TCP/IP protocol.

This section of Turock discloses the transmission of signaling messages over Internet 214. Turock also discloses that that the exchange establishes a full duplex voice path for the call between ITS nodes 206 and 216 over Internet 214 (col. 9, line 66, to col. 10, line 2). Appellant submits that this exchange of parameters over the Internet would not constitute out of band signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest that the exchange of parameters over Internet 214 occurs on a different communications channel or frequency than used for transporting the telephone call. Thus, neither this section nor any other section of Turock discloses or suggests transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device over a packet-switched network, where at least one of the first gateway device or the second gateway device accepts out of band signaling, as required by claim 38.

At col. 6, line 66, to col. 7, line 10, Turock discloses:

> The signalling messages are carried by the Internet 214 and delivered to a

> terminating specialized computer ITS node 216 at a remote access port. Terminating specialized computer ITS node 216 is identical to specialized computer 206, also referred to as the originating specialized computer ITS node, except that the originating specialized computer ITS node 206 is used to transmit a call, while the terminating specialized computer ITS node 216 is used to receive a call. Both originating and terminating specialized computers ITS node 206 and 216, respectively, are equipped with transmission circuits and receiving circuits and are capable of handling calls in either direction.

This section of Turock discloses that signaling messages are sent over Internet 214 to terminating ITS node 216. This section of Turock in no way discloses or suggests a gateway device that accepts out of band signaling. Therefore, this section of Turock cannot disclose or suggest transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device over a packet-switched network, where at least one of the first gateway device or the second gateway device accepts out of band signaling, as required by claim 38.

Further with respect to the above feature of claim 38, the Examiner alleges:

> Turock teaches the call control information (col. 9, lines 9-25) is established separate from telephone call between the calling and called parties (col. 9, line 8). Turock teaches the ITS nodes exchange the call control information (as out-of-band signal; CIM 510 communicates with CAM 556 in Fig. 5) to negotiation and set up parameters and then establish the connection. Therefore, Turock's system discloses the ITS (216) receiving out-of-band signal from ITS (206) as the claim invention.

(Office Action, pp. 12-13). Appellant submits that the Examiner has misinterpreted the definition of "out of band signaling."

As set forth above (and as acknowledged by the Examiner on page 12 of the Office Action), "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. The Examiner appears to allege that this is equivalent to the act of establishing a telephone call that is

separate from the act of conducting the telephone call. Appellant submits that this logic is flawed.

Clearly, one would appreciate that establishing a telephone call over a first communications channel and then conducting the telephone call over the same first channel would not constitute out of band signaling. Yet, if the act of establishing the telephone call and the act of conducting the telephone call occur separately (e.g., at different times), then this would satisfy the Examiner's misinterpretation of the phrase "out of band signaling." As indicated, above, out of band signaling requires that the signaling occur on a separate communications channel or frequency than used for the telephone call. Turok does not disclose or suggest transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device over a packet-switched network, where at least one of the first gateway device or the second gateway device accepts out of band signaling, as required by claim 38.

The Examiner has not pointed to any section of Turock that discloses or suggests that terminating specialized computer ITS node 216 (or any other device) accepts out of band signaling, as required by claim 38. Therefore, Turock cannot disclose or suggest transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device over a packet-switched network, where at least one of the first gateway device or the second gateway device accepts out of band signaling, as required by claim 38.

For at least the foregoing reasons, Appellant submits that the rejection of claim 38 under 35 U.S.C. § 102(e) based on Turock is improper. Accordingly, Appellant requests that the

rejection of claim 38 be reversed.

B. The rejection of claim 7 under 35 U.S.C. § 103(a) based on Turock (U.S. Patent No. 6,243,373) and Immendorfer et al. (U.S. Patent No. 4,763,350) should be reversed.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention always rests upon the Examiner. In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner must provide a factual basis to support the conclusion of obviousness. In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). Based upon the objective evidence of record, the Examiner is required to make the factual inquiries mandated by Graham v. John Deere Co., 86 S. Ct. 684, 383 U.S. 1, 148 USPQ 459 (1966). The Examiner is also required to explain how and why one having ordinary skill in the art would have been realistically motivated to modify an applied reference and/or combine applied references to arrive at the claimed invention. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

In establishing the requisite motivation, it has been consistently held that the requisite motivation to support the conclusion of obviousness is not an abstract concept, but must stem from the prior art as a whole to impel one having ordinary skill in the art to modify a reference or to combine references with a reasonable expectation of successfully achieving some particular realistic objective. See, for example, Interconnect Planning Corp. v. Feil, 227 USPQ 543 (Fed. Cir. 1985). Consistent legal precedent admonishes against the indiscriminate combination of prior art references. Carella v. Starlight Archery, 804 F.2d 135, 231 USPQ 644 (Fed. Cir. 1986); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 USPQ 657 (Fed. Cir.

1985).

1. Claim 7.

Claim 7 depends from claim 1. The disclosure of Immendorfer et al. does not remedy the deficiencies in the disclosure of Turock set forth above with respect to claim 1. Therefore, claim 7 is patentable over Turock and Immendorfer et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Moreover, claim 7 is patentable over Turock and Immendorfer et al., whether taken alone or in any reasonable combination, for reasons of its own.

Claim 7 recites that the routing component provides the routing in response to spoken digits. The Examiner admits that Turock does not disclose this feature (Office Action, pg. 10). The Examiner relies on col. 3, lines 40-45, of Immendorfer et al. for allegedly disclosing this feature (Office Action, pg. 10). Appellant respectfully disagrees with the Examiner's interpretation of Immendorfer et al.

At col. 3, lines 40-53, Immendorfer et al. discloses:

> Dial or service-feature-control information is entered in the form of spoken words and/or spoken digits through the microphone of the handset. The voice signals are transmitted to the adapter unit AE and from there over the first message path NE to the voice recognition unit SPE, which is controlled by the control unit SE. In the voice recognition unit SPE, the words and/or digits are compared with the stored reference-pattern data and assigned to the most similar pattern. The memory-location number of the most similar reference pattern addresses the subscriber's name (the digits) or the service feature in an associated name memory of the voice recognition unit SPE.

This section of Immendorfer et al. discloses that a voice recognition unit SPE receives words or digits, compares the words or digits to stored reference pattern data, and assigns the words or digits to the most similar pattern. This section of Immendorfer et al. does not disclose or suggest

a routing component that provides the routing in response to spoken digits, as required by claim 7.

Even assuming, for the sake of argument, that the above section of Immendorfer et al. can reasonably be construed to disclose a routing component that provides routing in response to spoken digits (a point that Appellant does not concede), Appellant submits that one skilled in the art would not have been motivated to combine this alleged teaching with Turock, absent impermissible hindsight. With respect to motivation, the Examiner alleges "it would have been obvious to ... implement the speed recognition into Turock invention for user's convenient" (Office Action, pg. 10). Appellant submits that this allegation is merely a conclusory statement regarding an alleged benefit of the combination. Such conclusory motivation statements have consistently been held by courts to be insufficient for establishing a *prima facie* case of obviousness. In this respect, Appellant relies upon In re Deuel, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995), where it was held that generalizations do not establish the realistic motivation to modify a specific reference in a specific manner to arrive at a specifically claimed invention. Appellant submits that the Examiner's purported motivation to combine the cited references is merely conclusory and based on impermissible hindsight.

For at least the foregoing reasons, Appellant submits that the rejection of claim 7 under 35 U.S.C. § 103(a) based on Turock and Immendorfer et al. is improper. Accordingly, Appellant requests that the rejection of claim 7 be reversed.

C. The rejection of claims 34 and 39 under 35 U.S.C. § 103(a) based on Turock (U.S. Patent No. 6,243,373) and Hellwarth et al. (U.S. Patent No. 4,935,956) should be reversed.

1. Claim 34.

Independent claim 34 is directed to a telecommunications method that includes providing originating digital packets for transmission from an originating gateway computer, the originating digital packets corresponding to originating signals produced in response to originating voice input; routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or the gateway computer; converting the originating digital packets into terminating signals for transmission from the gateway computer; transmitting the terminating signals through a circuit-switched network for providing terminating voice output in response to the terminating signals; providing first return signals to the gateway computer in response to return voice input into the circuit-switched network; converting the return signals into return digital packets of return digital data for transmission from the gateway computer; routing the return digital packets through the packet-switched network from the gateway computer to the originating gateway computer using the originating routing component or another routing component in the originating gateway computer or the gateway computer; converting the return digital packets into second return signals; estimating a unit charge for a call going through the gateway computer; informing a caller providing the originating voice input about the unit charge; and recording a payment method specified by the caller before providing the terminating voice output. Turock and Hellwarth et al. do not disclose or suggest this combination of features.

For example, Turock and Hellwarth et al. do not disclose or suggest routing the originating digital packets from the originating gateway computer to a gateway computer, that

accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or the gateway computer. The Examiner relies on block 216 of Fig. 2 and col. 9, lines 8-25, of Turock for allegedly disclosing this feature (Office Action, page 10). Appellant respectfully disagrees with the Examiner's interpretation of Turock.

Block 216 in Turock's Fig. 2 corresponds to a Specialized Switch with Voice Digital Signal Processing (DSP) (also referred to as an Internet Telephony Switch (ITS) node). Turock discloses that ITS node 216 receives a call and outdials the call through central office 218 (col. 7, lines 1-12). Turock does not disclose or suggest that ITS node 216 accepts out of band signaling, as required by claim 34. Thus, Turock cannot disclose or suggest routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or the gateway computer, as required by claim 34.

Col. 9, lines 8-25, of Turock is reproduced above. This section of Turock discloses that ITS nodes 206 and 216 exchange parameters over Internet 214 (see Fig. 5) to establish a call. Turock also discloses that the exchange establishes a full duplex voice path for the call between ITS nodes 206 and 216 over Internet 214 (col. 9, line 66, to col. 10, line 2). Appellant submits that this exchange of parameters over the Internet and subsequent conducting of the telephone call over the Internet would not constitute out of band signaling, as that phrase is known in the art. As correctly noted by the Examiner and as consistently used by Appellant, "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. Turock does not disclose or suggest

that the exchange of parameters over Internet 214 occurs on a different communications channel or frequency than used for transporting the telephone call. Neither this section nor any other section of Turock discloses or suggests routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or the gateway computer, as required by claim 34.

Further with respect to the above feature of claim 34, the Examiner alleges:

> Turock teaches the call control information (col. 9, lines 9-25) is established separate from telephone call between the calling and called parties (col. 9, line 8). Turock teaches the ITS nodes exchange the call control information (as out-of-band signal; CIM 510 communicates with CAM 556 in Fig. 5) to negotiation and set up parameters and then establish the connection. Therefore, Turock's system discloses the ITS (216) receiving out-of-band signal from ITS (206) as the claim invention.

(Office Action, pp. 12-13). Appellant submits that the Examiner has misinterpreted the definition of "out of band signaling."

As set forth above (and as acknowledged by the Examiner on page 12 of the Office Action), "out of band signaling" refers to the use of a separate communications channel or frequency for signaling that is different than the channel(s) used for the telephone call. The Examiner appears to allege that this is equivalent to the act of establishing a telephone call that is separate from the act of conducting the telephone call. Appellant submits that this logic is flawed.

Clearly, one would appreciate that establishing a telephone call over a first communications channel and then conducting the telephone call over the same first channel would not constitute out of band signaling. Yet, if the act of establishing the telephone call and

the act of conducting the telephone call occur separately (e.g., at different times), then this would satisfy the Examiner's misinterpretation of the phrase "out of band signaling." As indicated, above, out of band signaling requires that the signaling occur on a separate communications channel or frequency than used for the telephone call. Turok does not disclose or suggest that ITS node 216 (or any other device) accepts out of band signaling, as required by claim 34. Thus, Turock cannot disclose or suggest routing the originating digital packets from the originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of the originating gateway computer or the gateway computer, as required by claim 34.

The disclosure of Hellwarth et al. does not remedy the above deficiencies in the disclosure of Turock.

For at least the foregoing reasons, Appellant submits that the rejection of claim 34 under 35 U.S.C. § 103(a) based on Turock and Hellwarth et al. is improper. Accordingly, Appellant requests that the rejection of claim 34 be reversed.

2. Claim 39.

Claim 39 depends from claim 38. The disclosure of Hellwarth et al. does not remedy the deficiencies in the disclosure of Turock set forth above with respect to claim 38. Therefore, Appellant submits that claim 39 is patentable over Turock and Hellwarth et al., whether taken alone or in any reasonable combination, for at least the reasons set forth above with respect to claim 38. Moreover, claim 39 is patentable over Turock and Hellwarth et al., whether taken alone or in any reasonable combination, for reasons of its own.

Claim 39 recites prompting, via the first gateway device, the calling device for a payment

method and validating the payment method prior to transmitting the connection request to the second gateway device. The Examiner admits that Turock does not disclose these features (Office Action, pg. 11). The Examiner relies on col. 3, lines 40-55, of Hellwarth et al. for allegedly disclosing these features (Office Action, pg. 11). Appellant respectfully disagrees with the Examiner's interpretation of Hellwarth et al.

At col. 3, lines 40-55, Hellwarth et al. discloses:

> And even further, the objects and advantages of the invention include to provide means for recording the details of all calling activity in memory means connected to the microcomputer means, to maintain certain information in the memory for instant screening and evaluation of the acceptability of the specific number being called and for denying access to restricted types or classes of calls to be selected for each specific installation, to maintain certain calling and charge number information in said memory for instant screening and evaluation of the validity of charge numbers at the moment during and shortly after when the numbers are being entered by the caller, to provide means for placing a validation call either to the public access port of the network system or to any other communicating computer and database means established particularly for validation purposes, to present the caller's credit and/or charge numbers for lookup in a validation database, to detect and analyze the responsive signals that return the information describing the validity of the credit number, including analyzing and recognizing responsive voice signals, to permit or deny further processing of the caller's charge call depending on the validation information acquired, to offer by speech promts to the caller an alternative billing method in the event that credict validation is unavailable, and to arrange transmission of call details and timings over the local loop, at a time when no call demand or activily exists, to a separate or remote computing means that enables subsequent presentation of the billed charges to the customer for payment.

This section of Hellwarth et al. discloses validating a caller's credit or charge numbers. This section of Hellwarth et al. does not disclose or suggest prompting, via the first gateway device, the calling device for a payment method and validating the payment method prior to transmitting the connection request to the second gateway device, as required by claim 39.

Even assuming, for the sake of argument, that the above section of Hellwarth et al. can

reasonably be construed to disclose prompting, via the first gateway device, the calling device for a payment method and validating the payment method prior to transmitting the connection request to the second gateway device (a point that Appellant does not concede), Appellant submits that one skilled in the art would not have been motivated to combine this alleged teaching with Turock, absent impermissible hindsight. With respect to motivation, the Examiner alleges "it would have been obvious to ... implement the selecting payment method of user before making a call for customer's convenient" (Office Action, pp. 11-12). Appellant submits that this allegation is merely a conclusory statement regarding an alleged benefit of the combination. Such conclusory motivation statements have consistently been held by courts to be insufficient for establishing a *prima facie* case of obviousness. In this respect, Appellant relies upon In re Deuel, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995), where it was held that generalizations do not establish the realistic motivation to modify a specific reference in a specific manner to arrive at a specifically claimed invention. Appellant submits that the Examiner's purported motivation to combine the cited references is merely conclusory and based on impermissible hindsight.

For at least the foregoing reasons, Appellant submits that the rejection of claim 39 under 35 U.S.C. § 103(a) based on Turock and Hellwarth et al. is improper. Accordingly, Appellant requests that the rejection of claim 39 be reversed.

VIII. CONCLUSION

In view of the foregoing arguments, Appellants respectfully solicit the Honorable Board to reverse the Examiner's rejection of claims 1, 4-7, 9-11, 14-17, 19, 20, 22, and 26-39 under 35 U.S.C. §§ 102 and 103.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY SNYDER, L.L.P.

By: /John E. Harrity/
John E. Harrity
Registration No. 43,367

Date: September 22, 2006

11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800
Customer No. 25537

IX. CLAIM APPENDIX

1. A telecommunications system comprising:

an originating circuit-switched network for providing originating signals in response to voice input,

an originating gateway computer for converting said originating signals into digital data packets,

a terminating gateway computer that accepts out of band signaling and converts said digital data packets into terminating signals,

a terminating circuit-switched network for providing voice output in response to said terminating signals, and

a packet-switched network for transmitting said digital data packets from said originating gateway computer to said terminating gateway computer, at least one of said originating gateway computer or said terminating gateway computer comprising a component for routing said digital data packets through said packet-switched network from said originating gateway computer to said terminating gateway computer;

wherein said terminating circuit-switched network is capable of providing first return signals to said terminating gateway computer in response to return voice input,

wherein said terminating gateway computer comprises a component for converting said first return signals into return packets of return digital data,

wherein at least one of said originating gateway computer or said terminating gateway computer comprises a component for routing said return packets through said packet-switched network from said terminating gateway computer to said originating gateway computer,

and wherein said originating gateway computer comprises a component for converting said return packets into second return signals.

4. A telecommunications system according to claim 1, wherein said terminating gateway computer comprises a terminating buffer component for storing said digital packets prior to the conversion thereof into said terminating signals.

5. A telecommunications system according to claim 4, wherein said terminating gateway computer further comprises a component for rearranging said stored digital packets to maintain a proper packet order.

6. A telecommunications system according to claim 1, wherein said routing component provides said routing in response to dialed digits.

7. A telecommunication system according to claim 1, wherein said routing component provides said routing in response to spoken digits.

9. A telecommunications system according to claim 1, wherein said originating gateway computer comprises an originating buffer component for storing said return packets prior to conversion thereof into said second return signals.

10. A telecommunications system according to claim 9, wherein said originating gateway computer further comprises a component for rearranging said stored return packets to maintain a proper packet order.

11. A telecommunications system comprising:

an originating gateway computer for providing digital packets corresponding to originating signals produced in response to voice input,

a gateway computer that accepts out of band signaling and converts said digital packets into terminating signals,

a circuit-switched network for providing voice output in response to said terminating signals, and

a packet-switched network for transmitting said digital packets from said originating gateway computer to said gateway computer, at least one of said originating gateway computer or said gateway computer comprising a component for routing said digital packets through said packet-switched network from said originating gateway computer to said gateway computer;

wherein said circuit-switched network is capable of providing first return signals to said gateway computer,

wherein said gateway computer comprises a component for converting said first return signals into packets of return digital data,

wherein at least one of said originating gateway computer or said gateway computer comprises a component for routing said return packets through said packet-switched network from said gateway computer to said originating gateway computer,

and wherein said originating gateway computer comprises a component for converting said return packets into second return signals.

14. A telecommunications system according to claim 11, wherein said gateway computer comprises a buffer component for storing said digital packets prior to the conversion thereof into said terminating voice signals.

15. A telecommunications system according to claim 14, wherein said gateway computer further comprises a component for rearranging said stored digital packets to maintain a proper packet order.

16. A telecommunications system according to claim 11, wherein said routing component provides said routing in response to data received from said gateway computer.

17. A telecommunications system according to claim 11, wherein said routing component provides said routing in response to a typed input from a computer keyboard.

19. A telecommunications system according to claim 11, wherein said originating network comprises a buffer component for storing said return packets prior to conversion thereof

into said second return signals.

20. A telecommunications system according to claim 19, wherein said originating network further comprises a component for rearranging said stored return packets to maintain a proper packet order.

22. A telecommunications method comprising:

providing originating digital packets for transmission from an originating gateway computer, said originating digital packets corresponding to originating signals produced in response to originating voice input;

routing said originating digital packets from said originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of said originating gateway computer or said gateway computer;

converting said originating digital packets into terminating signals for transmission from said gateway computer;

transmitting said terminating signals through a circuit-switched network for providing terminating voice output in response to said terminating signals;

providing first return signals to said gateway computer in response to return voice input into said circuit-switched network;

converting said return signals into return digital packets of return digital data for transmission from said gateway computer;

routing said return digital packets through said packet-switched network from said gateway computer to said originating gateway computer using said originating routing component or another routing component in said originating gateway computer or said gateway computer;

and converting said return digital packets into second return signals.

26. A telecommunications system according to claim 1, wherein at least one of said routing components comprises an address resolution logic and a network routing database implemented with a central processing unit.

27. A telecommunications system according to claim 1, wherein said originating gateway computer includes a component for providing a ring back tone or a busy tone to a telephone connected to said originating circuit-switched network.

28. A telecommunications system according to claim 1, wherein said originating gateway computer includes a component for providing out of band signalling between said originating gateway computer and said originating circuit-switched network.

29. A telecommunications system comprising:

an originating circuit-switched network for providing originating signals in response to voice input,

an originating gateway computer for converting said originating signals into digital data packets,

a terminating gateway computer that accepts out of band signaling and converts said digital data packets into terminating signals,

a terminating circuit-switched network for providing voice output in response to said terminating signals, and

a packet-switched network for transmitting said digital data packets from said originating gateway computer to said terminating gateway computer, at least one of said originating gateway computer or said terminating gateway computer comprising a component for routing said digital data packets through said packet-switched network from said originating gateway computer to said terminating gateway computer;

wherein said terminating circuit-switched network is capable of providing first return signals to said terminating gateway computer in response to return voice input,

wherein said terminating gateway computer comprises a component for converting said first return signals into return packets of return digital data,

wherein at least one of said originating gateway computer or said terminating gateway computer comprises a component for routing said return packets through said packet-switched network from said terminating gateway computer to said originating gateway computer,

wherein said originating gateway computer comprises a component for converting said return packets into second return signals, and

wherein at least one of said originating gateway computer or said terminating gateway computer comprises a time-division multiplexing bus interconnecting at least one digital

trunk interface with a digital signal processor and an application-specific integrated circuit, and a system bus interconnecting said digital signal processor and said application-specific integrated circuit with a central processing unit and a random access memory.

30. A telecommunication system according to claim 29, wherein said system bus is interconnected with said originating circuit-switched network via a component for out of band signalling.

31. A telecommunications system according to claim 1, wherein said originating circuit-switched network comprises at least one dedicated address for a caller, and a routing configuration from said dedicated address to said originating gateway computer, said routing configuration being such that a caller's address and a destination address are passed to said originating gateway computer by the originating circuit-switched network and are routed to said terminating gateway computer by an originating routing component.

32. A telecommunications method according to claim 22, wherein said originating digital packets or said return digital packets or both said originating and return digital packets are routed using an address resolution logic and a network routing database implemented with a central processing unit.

33. A telecommunications method according to claim 22, further comprising providing a ring back or busy tone to a telephone connected to said originating gateway computer

through an originating network in response to signaling from a component of said originating gateway computer.

34. A telecommunications method comprising:

providing originating digital packets for transmission from an originating gateway computer, said originating digital packets corresponding to originating signals produced in response to originating voice input;

routing said originating digital packets from said originating gateway computer to a gateway computer, that accepts out of band signaling, through a packet-switched network via an originating routing component in at least one of said originating gateway computer or said gateway computer;

converting said originating digital packets into terminating signals for transmission from said gateway computer;

transmitting said terminating signals through a circuit-switched network for providing terminating voice output in response to said terminating signals;

providing first return signals to said gateway computer in response to return voice input into said circuit-switched network;

converting said return signals into return digital packets of return digital data for transmission from said gateway computer;

routing said return digital packets through said packet-switched network from said gateway computer to said originating gateway computer using said originating routing

component or another routing component in said originating gateway computer or said gateway computer;

converting said return digital packets into second return signals;

estimating a unit charge for a call going through said gateway computer;

informing a caller providing said originating voice input about the unit charge; and

recording a payment method specified by the caller before providing said terminating voice output.

35. A telecommunications method according to claim 22, wherein said gateway computer is a terminating gateway computer, and wherein said method further comprises:

providing a caller's address and a callee's address to said originating gateway computer,

authorizing a call between the caller and the callee using the caller's address,

using the callee's address for said routing of the originating digital packets from the originating gateway computer to the terminating gateway computer,

causing the terminating gateway computer to dial out to the callee through said circuit switched network using the callee's address,

and causing the originating gateway computer to provide a return tone for advising the caller of a status of the call.

36. A telecommunications method according to claim 35 comprising the further step

of causing the terminating gateway computer to transmit to the originating gateway computer via said packet-switched network a state change caused by the callee's answering said call.

37. A telecommunications method according to claim 22, wherein a caller is associated with at least one dedicated address, and wherein said method further comprises:

routing a call in accordance with a routing configuration from a telephone at said dedicated address to said originating gateway computer,

passing said originating signals, the caller's address and a destination address to the originating gateway computer in accordance with said routing configuration,

authorizing a call by checking account information of the caller though an internal data base of the originating gateway computer,

resolving a routing to said gateway computer using the destination address, and

causing the originating gateway computer to send a control message to the gateway computer along with said dedicated address and said destination address.

38. A method for establishing a call connection, the method comprising:

receiving, at a first gateway device, a destination address of a called device from a calling device over a first circuit-switched network;

transmitting, in response to receiving the destination address, a connection request from the first gateway device to a second gateway device over a packet-switched network, at least one of the first gateway device or the second gateway device accepting out of band signaling;

connecting, via the second gateway device, to the called device through a second circuit-switched network using the destination address; and

establishing a call connection between the calling device and the called device through the first circuit-switched network, the packet-switched network, and the second circuit-switched network in response to the connecting.

39. The method of claim 38, further comprising:

prompting, via the first gateway device, the calling device for a payment method; and

validating the payment method prior to transmitting the connection request to the second gateway device.

X. EVIDENCE APPENDIX

None.

XI. RELATED PROCEEDINGS APPENDIX

None.